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19. The method of claim 14, wherein the residual maleic anhydride groups in the polymer are hydrolyzed.

20. The method of claim 12 wherein the additive is added to a wellbore drilling or service fluid.

21. The method of claim 20 wherein the wellbore fluid is water based.

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**REMARKS:**

AMENDMENTS TO THE SPECIFICATION:

The above noted amendments to the specification have been made so as to properly present the priority claim and 35 USC §371 status information in order to claim priority.

Applicants' undersigned representative has enclosed a "redline" version of the specification indicating the above amendments for use by the Examiner. If for any reason there is a discrepancy between the amendments contained in this paper and the enclosed documents, Applicants request that the amendments of this paper be considered controlling.

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AMENDMENTS TO THE CLAIMS:

The above noted amendments to the claims have been made so that the scope and language of the claims is more precise and clear in defining what the Applicants consider to be his invention. Specifically, the claims as presented in the international application contain multiple, multiple dependencies have been removed from the claims which in order to bring such claims into conformance with US practice.

Applicants respectfully submit that no new matter is introduced by the proposed amendments to the specification. Applicants' undersigned representative has enclosed a complete set of the claims showing the changes desired. Enclosed is a full set of the amended claims in the condition desired after taking into account that above amendments as a courtesy to and a convenience for the Examiner. If for any reason there is a discrepancy between the

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amendments contained in this paper and the enclosed amended claims, Applicants request that the amendments of this paper be considered controlling.

The claims and amended claims are submitted as being clearly distinct and patentable over the art of record and therefore Applicants respectfully request their entry and allowance by the Examiner.

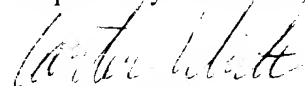
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Applicants hereby request for any extension of time that may be deemed necessary to further the prosecution of this application. Applicants' representative hereby authorizes the Commissioner to charge any additional fees which may be required, or credit any overpayment, to Deposit Account No. 01-2508, referencing Order No. MIDR 714.

In order to facilitate the resolution of any issues or questions presented by this paper, Applicants respectfully request that the Examiner directly contact the undersigned by phone to further the discussion.

In order to promote the prosecution of this application, the Examiner is hereby authorized to contact the undersigned by electronic mail. Please address all e-mail to: whitec@howrey.com.

Respectfully submitted,



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Date: 15 Feb 01

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WHAT IS CLAIMED IS:

1. An additive, when used as a shale stabilizer injected in subterranean formations, comprising a polymer based on an olefinically unsaturated hydrocarbon with alkylene oxide based side chains.

2. The additive of claim 1 wherein the polymer is a copolymer of an olefinically unsaturated hydrocarbon and an ethylenically unsaturated carboxylic acid, carboxylic acid salt or carboxylic acid anhydride with alkylene oxide based side chains.

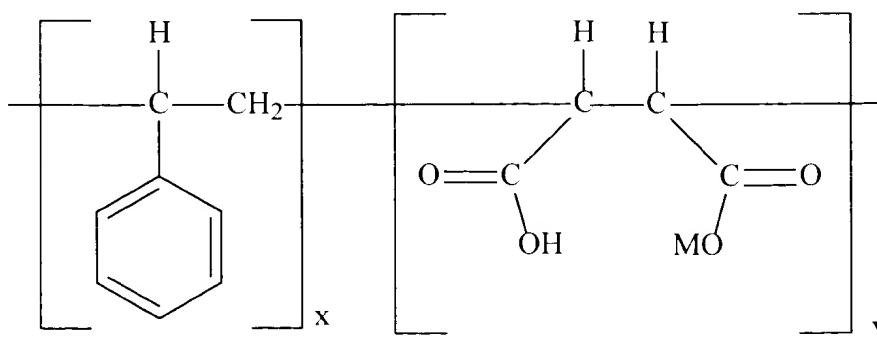
3. (Amended) The additive of claim 1 ~~or 2~~, wherein the polymer is a copolymer of styrene or a styrene derivative and maleic anhydride with alkylene oxide based side chains.

4. (Amended) The additives of ~~any one of claims 1 to 3~~ claim 1, wherein the polymer has a molecular weight of from 5000 g/mol to 100,000 g/mol.

5. (Amended) The additive of ~~any one of claim 1 to 4~~ claim 1, wherein the weight of the alkylene oxide based side chains is above 200 g/mol.

6. (Amended) The additive of ~~any one of claims 1 to 5~~ claim 1, wherein the number of alkoxyates in the polymer side chain is up to 60 units.

7. (Amended) The additive of ~~any one of claim 1 to 6~~ claim 1, wherein the polymer has the molecular structure:



wherein M in each occurrence independently is hydrogen or  $-\text{[CH}_2\text{-CHR-O]}_n\text{-CH}_3$  with R being  $\text{CH}_3$  or  $\text{CH}_2\text{-CH}_3$  or hydrogen, with the proviso that at least some of the radicals M have

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the meaning of  $-\text{[CH}_2\text{-CHR-O]}_n\text{-CH}_3$ , n is from 3 to 70, ~~preferably greater than 4 and less than 60,~~ and x and y each independently are from 1 to 100.

8. The additive of claim 3, wherein the residual maleic anhydride groups in the polymer are hydrolyzed.

9. A wellbore drilling or service fluid when brought into contact with subterranean clayey formations, said fluid comprising a polymer for stabilizing the clayey formations based on an olefinically unsaturated hydrocarbon with alkylene oxide based side chains.

10. The wellbore fluid of claim 9, being water based.

11. Use of a polymer based on an olefinically unsaturated hydrocarbon with alkylene oxide based side chains for stabilizing shale or clayey formations.

12. A method of stabilizing shale in a subterranean formation comprising the step of injecting an additive into the formation comprising a polymer based on an olefinically unsaturated hydrocarbon with alkylene oxide based side chains.

13. The method of claim 12 wherein the polymer is a copolymer of an olefinically unsaturated hydrocarbon and an ethylenically unsaturated carboxylic acid, carboxylic acid salt or carboxylic acid anhydride with alkylene oxide based side chains.

14. (Amended) The method of claim 12 ~~or 13~~, wherein the polymer is a copolymer of styrene derivative and maleic anhydride with alkylene oxide based side chains.

15. (Amended) The method of ~~any one of claim 12 to 14~~ claim 12, wherein the polymer has a molecular weight of from 5000 g / mol to 100,000 g/mol.

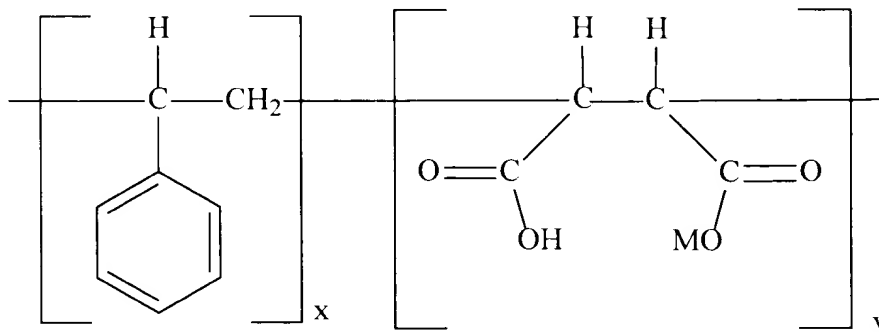
16. (Amended) The method of ~~any one of claim 12 to 15~~ claim 12, wherein the weight of the alkylene oxide based side chains is above 200 g/mol.

17. (Amended) The method of ~~any one of claim 12 to 16~~ claim 12, wherein the number of alkoxyates in the polymer side chain is up to 60 units.

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18. (Amended) The method of ~~any one of claims 12 to 17~~ claim 12, wherein the polymer has the molecular structure:



wherein M in each occurrence independently is hydrogen or  $-\text{[CH}_2\text{-CHR-O]}_n\text{-CH}_3$  with R being  $\text{CH}_3$  or  $\text{CH}_2\text{-CH}_3$  or hydrogen, with the proviso that at least some of the radicals M have the meaning of  $-\text{[CH}_2\text{-CHR-O]}_n\text{-CH}_3$ , n is from 3 to 70, ~~preferably greater than 4 and less than 60~~, and x and y each independently are from 1 to 100.

19. The method of claim 14, wherein the residual maleic anhydride groups in the polymer are hydrolyzed.

20. The method of claim 12 wherein the additive is added to a wellbore drilling or service fluid.

21. The method of claim 20 wherein the wellbore fluid is water based.